

The Knowledge Bank at The Ohio State University
Ohio State Engineer

Title: WSEN

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Issue Date: Nov-1930

Publisher: Ohio State University, College of Engineering

Citation: Ohio State Engineer, vol. 14, no. 2 (November, 1930), 10, 24.

URI: <http://hdl.handle.net/1811/34726>

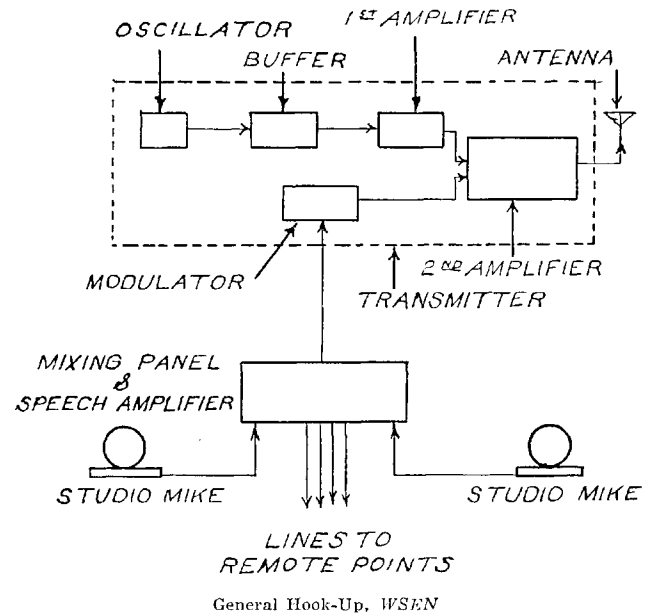
Appears in Collections: [Ohio State Engineer: Volume 14, no. 2 \(November, 1930\)](#)

W S E N

By FRED H. TRIMMER, E. E. 2

A new radio voice recently came into existence here in Columbus. This new station is WSEN, located in the Seneca Hotel on East Broad Street. Although the station is not a high-powered one, it has been heard in a large number of the states.

When I visited the station, recently, the Chief Engineer showed me through the station and explained its operation. Upon entering the studios, I was immediately struck with their resemblance to the New York studios of the Columbia System, particularly with respect to artistic design. Like the Columbia studios, the walls, floors, and ceiling are made of a sound absorbing material called Acoustex, which is laid on in slabs a foot square. These are tinted and slightly ornamented. There



are two studios here, one of which is used for solo broadcasts and speeches and the other for group broadcasts. Programs are also broadcast from four remote points over telephone lines to the station. Carbon microphones are used throughout.

The layout of the studios, control room, transmitting room, and office is very unusual. All of the rooms adjoin each other and one can look from any one into any other through double glass panels placed at advantageous points. This affords better coordination and smoother operation of the station.

From the studios we went into the control room where the mixing panel and telephone line terminal are located. The lines from the studios and the telephone lines from the remote points terminate in this room. Here the output from the studio is connected to the input of the transmitter and the current that enters the transmitter from the "mike" is regulated by a variable resistor so that the transmitter will not be overloaded.

Next to this room is the transmitter room. In it, on an upright panel about five feet high, is mounted the transmitter. It was built by the station engineering staff according to specifications

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of the Federal Radio Company and is of very modern design. It is rated at 100 watts output. Standard frequency is maintained by means of an oscillating quartz crystal housed in a constant temperature box. The whole crystal unit was manufactured by the Piezzo Laboratories. This crystal is in the oscillator circuit which employs a tube of the 210 type. This stage feeds into a buffer amplifier stage employing an 865 type tube which in turn feeds a 50-watt tube in the first amplifier stage. This tube feeds the last stage consisting of two 50-watt tubes operating in parallel. They are modulated by two 250-watt tubes in parallel. One hundred per cent modulation is claimed. The quality of transmission is checked by monitoring this last stage. This is done by taking a small portion of the current in the last stage and passing it through a rectifier and into a loud speaker.

The antenna system consists of a T type, six-wire cage, and a counterpoise which is six feet above the Hotel Seneca roof. The antenna is suspended directly above the counterpoise between two 65-foot towers, each surmounted by a brilliant red light to prevent collision from aircraft.

We now climbed the ladder to the small generator room above. In this room is located the power supply for the transmitter. This consists of two motor generator sets, one for the plates of the tubes, and one for their filaments. The output of both generators is filtered.

We came down to the transmitter room and sat down to smoke and chat a few minutes. As the last rays of the setting sun came through the window and were reflected back into our eyes from the polished transmitter panel, there came to my mind a similar autumn sunset of eight years before, when, as a small boy I first saw a radio broadcasting station. On one side of the room was a long shelf containing block after block of storage batteries and under them the floor was all discolored by acid. The transmitter was laid out on a flat table top and the floor was strewn with wires, while in the corner was a piano and a victrola. What a change eight years have made!
